ABSTRACT

Cardiogenic shock is the most extreme complication of myocardial infarction and it is the initial presentation of at least 1 in 15 patients admitted to ICCU..5-10% of patients with myocardial infarction develop cardiogenic shock and 2/3 rd among these are expected to die within 2-3 weeks. The various risk factors contributing to cardiogenic shock has been studied individually in different parts of the world.

AIMS AND OBJECTIVE

To study the prognosis of patients admitted with cardiogenic shock as a complication of acute MI and to stratify the risk in the above patients with respect to the levels of admission day random blood glucose, thyroid hormone levels- T3,T4,TSH, Lipid profile- Total cholesterol, triglycerides, HDL,LDL, serum uric acid, blood urea and serum creatinine

MATERIALS AND METHODS

This is a cross sectional observational intention to treat study of 200 cases of cardiogenic shock following acute myocardial infarction admitted in the ICCU of Coimbatore medical college done in the period from july 2106 to june 2017. The cases were evaluated with thorough clinical examination, blood investigations and echocardiography.

OBSERVATION

In our study, the prognosis of cardiogenic shock was found to be poor despite early effective intervention methods, only 170 survived among the 200 cases. The majority of the patients were males in the age group of 61-70 years. There were more number of smokers and alcoholics in the group who died. Most of the patients presented within the window peiod of 6-12 hrs and STEMI. A low systolic blood pressure of <40 mmhg, heart rate of >120 /min, anterior wall STEMI , ejection fraction <30% were found to have bad prognosis. Neither a family history of CAD nor use of thrombolytic therapy or vasopressor use was found to improve the outcome in these patients. Among the various biochemical variables studied, hyperglycemia was observed in 56.5%, elevated serum uric acid was found in 30%., Elevated blood urea was observed in 40% and Sick euthyroid syndrome ie. A low T3, normal TSH and normal t4 was observed in 14.6% of the patients. A random blood sugar level >200mg/dl, serum uric acid > 6 mg/dl, Serum creatinine>2 mg.dl, blood urea >40mg/dl was found to adversely effect the outcome and related to MACE. Lipid profile analysis showed elevated triglycerides , elevated total cholesterol and reduced HDL in majority of the patients. Among these, a TC level > 200 mg/dl, TG >150mg/dl and HDL <40mg/dl were found to be associated with adverse outcome in cardiogenic shock. Following regression analysis, a low blood pressure <90mmhg, a serum uric acid level >8mg/dl, urea level>40mg/dl were found independently to be statistically significant in determining the outcome of cardiogenic shock.

CONCLUSION

This study has revealed the importance of stratifying the risk among patients who present with cardiogenic shock. Even though a few of the variables studied here has already been established in literature, this study has put together both clinical as well as biochemical factors in predicting the outcome of cardiogenic shock. In addition to the non modifiable risk factors like age, family history of CAD and hypertension, factors like initial blood pressure, heart rate has been found to be important. Blood urea, creatinine, serum uric acid and lipid profile are less often looked on variables when a patient presents with cardiogenic shock. This study has established the cut off values above which these variables should be cautiously watched for treatment. Studies on thyroid profile have not much been conducted and sick euthyroid syndrome and its effects on cardiogenic shock needs further studies. The use of thrombolytic therapy has not shown much yield in this study. This highlights the importance that any patient with cardiogenic shock should and must undergo a primary coronary intervention , which can only be the life saving measure.

KEYWORDS

Cardiogenic shock, coronary artery disease(CAD), ST elevation myocardial infarction (STEMI), blood urea, serum uric acid, creatinine, lipid profile, thyroid profile.